

REMARKS

Claims 1-9 are all the claims pending in the application. Reconsideration of the application and allowance of all claims are respectfully requested.

Withdrawal of the finality of the Office action mailed February 25, 2008 is respectfully requested. The Office action includes a new rejection of claim 7 under the second paragraph of 35 USC 112. This new ground of rejection was not necessitated by any amendment made to the claims. Accordingly, finality is improper, and withdrawal of the finality is therefore requested.

The rejection of claim 7 under the second paragraph of 35 USC 112 is respectfully traversed. "Unwanted" radiation is clearly radiation that is unable to excite the photovoltaic cell, and in fact is defined as such in parent claim 1. When properly read in light of the specification, and certainly given the definition of the term in claim 1, there is nothing indefinite about the term "unwanted" in claim 7.

The rejections stated in paragraphs 3-6 are the same as stated in the previous Office action, and are traversed for the reasons given in the amendment filed December 5, 2007.

In the response filed December 5, 2007, applicant pointed out that, while the examiner refers to page 305 of Osborn as showing a photovoltaic cell covered by a transparent protective layer, no such protective layer is shown or apparently described in Osborn. Fig. 6 of Osborn shows an array of photovoltaic cells labeled as such, but there is no illustrated transparent protective layer.

In paragraph 10 at page 6, the examiner now points to Fig. 17 and page 311. It is assumed that the examiner intended to refer to Fig. 18 at page 315, and the description thereof

beginning at page 311. Fig. 18 is described as showing a spectrally selective beam splitter (SSBS) that uses a filtering layer to filter out wavelengths not useful for photovoltaic conversion. This does teach the concept of filtering out unwanted light, but still fails to teach the invention in that there is no transparent protection layer on the photovoltaic cell, and the Fresnel lens is not a reflecting concentrator. The figure shows a Fresnel lens operating as a transmissive (but not reflective) concentrator, with the concentrated light passing through a spectrally selective fluid layer and then striking a photovoltaic array. It is unclear how the examiner is applying the claim language to this structure, but it is clear that not all claim limitations are present. Claim 1 calls for a photovoltaic cell covered by a transparent protection layer. The claim also requires that the photovoltaic cell be covered by a reflecting concentrator, and that the reflecting concentrator be covered by a filter. If the fluid layer in Fig. 18 is the claimed protection layer, there is no filter. If the fluid layer is a filter, there is no claimed protection layer. And in any event there is no reflecting concentrator as discussed above, nor is the fluid layer a “cover” on either of the photovoltaic or Fresnel lens structures.

In the response filed December 5, 2007, applicant further pointed out that, while the examiner refers to the page 305 as showing a “reflecting concentrator/Fresnel lens,” Osborn does not say anything about a reflecting concentrator, and a Fresnel lens is not such a device.

In paragraph 9 at pages 5-6 of the present Office action, the examiner disagrees, but it is respectfully submitted that the analysis presented therein is in error.

A Fresnel simply breaks a conventional spherical lens into a set of concentric annular sections. In each section, the curvature of the lens surface is the same as in a corresponding spherical lens, but the thickness is substantially reduced. The concentrating function of the lens

is the same as in the corresponding spherical lens, and is due to refraction at the curved lens surface. It does not concentrate by reflection.

The examiner has misread the Handbook of Optics excerpt attached to the Office action. The copy is essentially unreadable in several critical sections, but what is clear is that the fourth paragraph on page 2.10 describes Fresnel lenses, as having two types of facet structures, i.e., constant-width facets and constant-depth facets, and illustrates both of these in Fig. 6. These are no total internal reflection facets, and are not described as such. The fifth paragraph on page 2.10 then explains “riser angle,” and illustrates this with respect to Fig. 7. This Fig. is not included on page 2.10 but would presumably be included on a subsequent page that the examiner did not include. Finally, the last paragraph on page 2.10 describes the use of total internal reflection facets as a solution to excessive losses in the outer regions of the lens as the collection angle increases. The TIR facets can even be provided with power in more sophisticated designs. These “total internal reflection facets” are not part of a standard Fresnel lens but are added for a specific purpose. There are no total internal reflection facets shown in Fig. 6 of the Handbook of Optics reference. There is no suggestion in Osborn that such total internal reflection facets are used, nor is there seemingly any need for them.

Again, the Fresnel lens does not concentrate light by reflection, but does so by refraction. There is no reasonable basis for referring to the Fresnel lens as a “reflecting concentrator” as that term is used in the specification and claims.

For the above reasons, it is again submitted that the structure shown in Osborn simply is not what is claimed, and cannot anticipate or render obvious the claimed invention. In view of the above, reconsideration and allowance of this application are now believed to be in order, and

such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

/DJCushing/
David J. Cushing
Registration No. 28,703

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

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